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Dictionaries.

Nautical Almanac	except duplicates.
Connaissance des Temps	
Berliner Astronomisches Jahrbuch	
Washington Ephemeris	
British Association Catalogue	
Lalande's Catalogue	
Lacaille's Catalogue	
Stone's Cape Catalogue	
Gould's Catalogues	

Total Solar Eclipse Committee.

At a meeting of the above Committee, appointed by the Council of the R.A.S., the following resolution was passed :—

That the Council be requested to move the President to notify to the Fellows generally the constitution of this Committee, and to mention its objects of—

(1) Bringing into communication with each other gentlemen willing to observe eclipses.

(2) Becoming a centre of information for intending observers.

Note on the Total Solar Eclipse of 1889, *December* 21–22.

By J. R. Hind, LL.D., F.R.S.

In the second of the two total eclipses of the Sun occurring in the year 1889, although the track of the central line where duration of totality is longest is across the Atlantic, observations will be obtainable at three points in its course where the Sun will have an altitude of more than ten degrees.

First, at the southern extremity of the island of Trinidad, at Point Icacos, where the circumstances are :

	h	m	s	
Totality begins Dec. 21 at	19	6	27	local M.T.
Duration of totality		1	46	

Sun's altitude, 12°.

Next, at Cayenne, in French Guiana, where

	h	m	s	
Totality begins Dec. 21 at	19	51	23	local M.T.
Duration of totality		2	3	

Sun's altitude, 24°.

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Again, where the central line meets the west coast of Africa, in about 13° 20′ east longitude, and 9° 42′ south latitude. At this point

	h	m	s	
Totality begins Dec. 22 at	2	56	3	local M.T.
Duration of totality		3	12	

Sun's altitude, 46°.

For any point near this the Greenwich mean time of beginning and ending of totality may be found from the formulæ,

$$\cos\omega = +8{\cdot}9188 - [1{\cdot}93737]\sin l + [1{\cdot}57729]\cos l\,.\cos(\lambda + 217^\circ\ 36'{\cdot}6)$$

$$t = 0^{\mathrm{h}}\ 19^{\mathrm{m}}\ 45^{\mathrm{s}}{\cdot}5 \mp [1{\cdot}98325]\sin\omega + [2{\cdot}59376]\sin l$$
$$- [3{\cdot}95966]\cos l\,.\cos(\lambda + 121^\circ\ 32'{\cdot}4),$$

where l is the *geocentric* latitude, λ the longitude from Greenwich taken *positively*, and the quantities within square brackets are the logarithms of seconds of time.

The central line on entering Africa runs through the following points:

Greenwich Mean Time.		Longitude E.		Latitude S.	
h	m	°	′	°	′
2	4	13	10·3	9	45·1
2	5	13	41·3	9	34·8
2	6	14	12·7	9	24·2
2	7	14	44·5	9	13·4
2	8	15	16·9	9	2·2

Remarks on Sir George Airy's "Numerical Lunar Theory."
By Professor J. C. Adams, M.A., &c.

In the Report of the Council on the subject of Sir George Airy's "Numerical Lunar Theory," it has been explained that the large discordances which have been found by the author to result from the substitution of the values of the Moon's coordinates, as found by Delaunay, in the differential equations of motion, are caused by the large errors of Delaunay's coefficients of parallax, which Sir George has employed. It may be useful and not uninteresting to give on this subject some additional details. In the first place it will be well to prevent a possible misapprehension. In speaking of the errors of Delaunay's coefficients it is not intended to imply that there is any mistake in Delaunay's *theory*. The terms of the analytical expression for the Moon's parallax which Delaunay gives are all correct, but they only extend to the fifth order of small quantities, and are therefore not nearly precise enough to be used for the purpose to which the expression for the parallax is applied by Sir George

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